

Attorney Docket No. 30014200-1057

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

In re Patent Application of) Group Art Unit 2167
Brian HOLTZ et al.)
Application No. 10/021,943) Examiner: Mohammad Ali
Filed: December 12, 2001)
For: METHOD AND SYSTEM FOR)
COMPARING AND UPDATING)
FILE TREES)

Mail Stop Appeal Brief-Patent
Commissioner for Patents
Alexandria, VA 22313-1450

AMENDED BRIEF ON APPEAL

Dear Sir:

In accordance with the provisions of 37 C.F.R. § 41.37, Appellants submit this Amended Brief on Appeal pursuant to the Notice of Appeal mailed on December 26, 2006 and in response to the Notice of Non-Compliant Appeal Brief dated April 24, 2007. This Amended Brief on Appeal replaces and corrects deficiencies in the Brief on Appeal filed on February 26, 2007.

I. REAL PARTY IN INTEREST

The real party in interest in the present appeal is the Assignee, Sun Microsystems, a U.S. corporation. The Assignment was recorded in the U.S. Patent and Trademark Office.

II. RELATED APPEALS AND INTERFERENCES

There are no related appeals and no related interferences.

III. STATUS OF CLAIMS

Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are pending in the application.

Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Michael Man-Hak Tso* (U.S. Patent No. 5,706,509, hereinafter “*Tso*”) in view of *Multer et al.* (U.S. Patent No. 6,925,476, hereinafter “*Multer*”).

The present appeal is directed to claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22, which were finally rejected in an Office Action dated August 24, 2006.

A listing of the claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 appears as the Claims Appendix.

IV. STATUS OF AMENDMENTS

All amendments have been entered in this application.

V. SUMMARY OF THE CLAIMED SUBJECT MATTER

Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are currently pending. Claims 1, 9, and 17, which are the only pending independent claims, are summarized below.

Methods and systems in accordance with the present invention generally relate to a method for comparing two file structures and generating a sequence log of changes that will transform a first file structure into a second file structure. A file structure is represented as a tree of file folders, wherein each node may have child nodes that represent subfolders. The root node of the tree, indicating the top-most file folder, has no parent node. An exemplary file tree structure is illustrated in Figure 1 of the patent application.

Independent claim 1 is directed to a method for comparing file tree descriptions. See page 5, lines 3-7 of the patent application. The method comprises the steps of obtaining a first

file structure, obtaining a second file structure, and comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220 of the patent application. The method further comprises generating a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and Figure 3, Step 310 of the patent application. The method further comprises optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

Independent claim 9 is directed to a file tree comparator comprising a first file structure configured to be obtained and a second file structure configured to be obtained. See page 5, lines 3-7 and Figure 8, Elements 827, 828, and 829 of the patent application. The file tree comparator further comprises a comparator for comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220 of the patent application. The comparator further generates a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and Figure 3, Step 310 of the patent application. Still further, the comparator optimizes the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

Independent claim 17 is directed to a computer-readable medium storing computer-executable instructions for performing a method of comparing file tree descriptions. See page 5, lines 3-7 and page 13, lines 8-12 of the patent application. The method comprises the steps of obtaining a first file structure, obtaining a second file structure, and comparing said first file structure to said second file structure. See page 7, lines 10-17 and Figure 2, Steps 210 and 220

of the patent application. The method further comprises generating a sequence log of changes that transform said first file structure to said second file structure. See page 7, lines 18-22 and Figure 3, Step 310 of the patent application. The method further comprises optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation. See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

In one embodiment in accordance with the present invention, the method recursively walks through the first file tree, comparing each folder's children with corresponding children in the second file tree. See page 7, lines 19-22 and Figure 4 of the patent application. In another embodiment in accordance with the present invention, the sequence log of file tree operations is optimized by transforming multiple file tree operations into a single file tree operation. See page 7, lines 24-27 and Figure 4 of the patent application.

Accordingly, methods and systems in accordance with the present invention present an improved method, device, and computer product for producing a change log for updating a file tree.

VI. GROUND OF REJECTION TO BE REVIEWED ON APPEAL

The ground of rejection to be reviewed on appeal is as follows:

Claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are rejected under 35 U.S.C. § 103(a) as being unpatentable over *Michael Man-Hak Tso* (U.S. Patent No. 5,706,509, hereinafter “*Tso*”) in view of *Multer et al.* (U.S. Patent No. 6,925,476, hereinafter “*Multer*”).

VII. ARGUMENT

As set forth below, claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22 are not unpatentable under 35 U.S.C. §103(a) based on the cited references. Appellants respectfully submit the Examiner's assertions are incorrect as a matter of fact and law. Thus, for the reasons set forth below, Appellants respectfully request that this Board reverse the rejections of claims 1, 2, 4-6, 9, 10, 12-14, 17, 18 and 20-22.

A. Claims 1, 9, and 17 Are Patentable Over the Combination of *Henson* and *Odom*

1. Tso fails to teach or suggest “replacing the creation operation and the deletion operation with a reparent operation.”

Applicants respectfully submit that *Tso* and *Multer*, alone or in combination, fail to teach or suggest every limitation of amended claim 1. For example, the cited references fail to teach “optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file *and replacing the creation operation and the deletion operation with a reparent operation*” (emphasis added). The Examiner contends that *Tso* teaches the emphasized limitation at col. 12, ll. 59-65 and Fig. 4a. The cited text of *Tso* is repeated below:

If Rn is not marked UPDATE or CREATE, and in step 956 if Rn is marked DELETE, then in step 958 Rn is deleted in D1' (using the steps illustrated in FIG. 11a). In step 944, Rn is marked as DONE and the next record Rn in CL0 is processed. Back in step 928, if Rn is not marked as CREATE, then the general steps illustrated in FIG. 9c are followed.

Applicants respectfully submit that *Tso* says nothing there of a reparent operation, nor does it mention replacing a creation operation and deletion operation with a reparent operation.

To the best of Applicants' knowledge, *Tso* does not disclose a reparent operation, or even the equivalent thereof, anywhere in the patent.

*2. Examiner failed to provide explicit reference in *Tso*.*

In the Response After Final filed November 3, 2006, Applicants asked that, if the rejection is maintained, the Examiner provide clarification on what the Examiner regards as the reparent operation, and precisely where *Tso* teaches or suggests replacing a creation and deletion operation with a reparent operation. Under 37 C.F.R. § 1.104(c)(2), Applicants argued that a more precise explanation of the rejection was due in order to advance prosecution. "When a reference is complex or shows or describes inventions other than that claimed by the applicant, the particular part relied on must be designated as nearly as practicable." 37 C.F.R. § 1.104(c)(2). Applicants respectfully submitted that the Examiner had failed to rebut Applicants' argument.

*3. *Tso* neither expressly nor inherently teaches or suggests "replacing the creation operation and the deletion operation with a reparent operation."*

In response to Applicants' argument in the Response After Final, the Examiner issued an Advisory Action mailed November 20, 2006. Applicants respectfully submit that the remarks in the Advisory Action still fail to rebut Applicants' prior arguments. Much of the Examiner's response is directed to case citations regarding the motivation to combine references. However, Applicants argued that *neither* of the references teach or suggest the above-cited limitation. The relevant portion of the Examiner's response is recited here:

"[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw there from." *In re Preda*, 401 F.2d 825, 826,159 USPQ 342, 344 (CCPA 1968). Subsequent to an analysis of the claims it was revealed that a number of limitations recited in the claims belong in the prior art and thus encompassed and/or implicitly disclosed in the reference(s) applied and cited.

To the best of Applicants' understanding, the Examiner is arguing that the above-cited limitation is implicit in *Tso*. In the *Preeda* case, a process for catalytically producing carbon disulfide by reacting sulfur vapor and methane in the presence of charcoal at a temperature of "about 750-830C" was found to be met by a reference which expressly taught the same process at 700C because the reference recognized the possibility of using temperatures greater than 750C. The reference disclosed that catalytic processes for converting methane with sulfur vapors into carbon disulfide at temperatures greater than 750C (albeit without charcoal) was known, and that 700C was "much lower than had previously proved feasible." That is not like the present case. *Tso* does not imply or recognize the possibility of "optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file *and replacing the creation operation and the deletion operation with a reparent operation.*" Nor does the Examiner explain why one of ordinary skill in the art would infer such a teaching.

In a second point, to the best of Applicants' understanding, the Examiner appears to argue that the rejection of some or all of the above limitation need not be explained because it is "peripheral." In the Advisory Action, the Examiner states "[i]t is logical for the examiner to focus on the limitations that are "crux of the invention" and not involve a lot of energy and time for the things that are not central to the invention, but peripheral." Applicants respectfully submit, in response, that, to establish a case of *prima facie* obviousness, the Examiner is required to establish that all the claim limitations must be taught or suggested by the prior art. *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Moreover, Applicants do not regard the above-cited limitation as "peripheral." See page 9, lines 5-14 and Figure 7, Steps 710, 720, 730, and 740 of the patent application.

4. Multer also fails to teach or suggest "replacing the creation operation and the deletion operation with a reparent operation"

The Examiner does not contend that *Multer* teaches or suggest the emphasized limitation. However, Applicants note that *Multer* does not in fact teach or suggest this limitation. To the best of Applicants' knowledge, *Multer* does not disclose a reparent operation, or even the equivalent thereof, anywhere in the patent. Even if *Multer* did teach optimizing a sequence log of changes, which Applicants do not concede, *Multer* does not optimize the sequence log in the way presented in claim 1, *i.e.*, by "replacing the creation operation and the deletion operation with a reparent operation." Thus, the combination of *Tso* and *Multer* fails to teach or suggest every limitation of claim 1. Accordingly, *prima facie* obviousness has not been established, and the rejection should be withdrawn.

Claims 9 and 17 recite limitations similar to those of claim 1, and are therefore patentable for at least the same reasons as given for claim 1. The cited text provides no support for the Examiner's assertions. Thus, the Examiner has failed to establish *prima facie* obviousness with respect to claim 1. By similar reason, the Examiner has failed to establish *prima facie* obviousness with respect to claims 9 and 17. Accordingly, the rejection of claims 1, 9, and 17 is erroneous and should be reversed.

B. Claims 2, 10, and 18 Are Patentable Over the Combination of *Tso* and *Multer*

1. Tso fails to teach or suggest “recursively walking said first file structure.”

The Examiner erroneously asserts that *Tso* teaches “recursively walking said first file structure.” In support of this assertion, the Examiner points to Col. 4, Lines 55-62 of *Tso*, which states:

That is, D1' is synchronized in turn with D2', D3', and D4', then D2' is synchronized with D1', D3' and D4', etc. A more efficient implementation would run the Change Detection Method outlined in this invention on each of the data sets, and then merge the Change Lists (CL1, CL2, CL3, CL4). Thus, the present invention's method and apparatus for a two way synchronization also provides synchronization among any number of data sets (i.e. files).

However, neither this nor any other part of *Tso* teaches or suggests recursively walking through a file structure. *Tso* is directed to the synchronization of data sets. While *Tso* discloses that the data sets may be logically stuctured, *Tso* does not teach or suggest that these data set structures should be recursively walked through in order merge them; that is, a recursive walk is unnecessary, as would be the case with a linked list. See Col. 4, Lines 23-26 of *Tso*. In fact, the entirety of *Tso* fails to include any form of the word “recursive.” Moreover, *Multer* also lacks any occurrence of the word “recursive.” Thus, the Examiner has failed to establish *prima facie* obviousness with respect to claim 2. By similar reasoning, the Examiner has also failed to establish *prima facie* obviousness with respect to claims 10 and 18. Accordingly, the rejection of claims 2, 10, and 18 are erroneous and should be withdrawn.

C. All Other Pending Claims Are Patentable Over the Combination of *Tso* and *Multer*

Claims 4-6, 12-14 and 20-22 depend from claims 1, 9, or 17, and are therefore patentable for at least the same reasons as given for claims 1, 9, and 17.

VIII. Conclusion

Applicants respectfully submit that the outstanding rejections should be reversed, and that the application is in condition for allowance.

Respectfully submitted,

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CLAIMS APPENDIX

1. (Previously Presented) A method for comparing file tree descriptions comprising:
 - obtaining a first file structure;
 - obtaining a second file structure;
 - comparing said first file structure to said second file structure;
 - generating a sequence log of changes that transform said first file structure to said second file structure; and
 - optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.
2. (Original) The method of claim 1 wherein said comparing further comprises: recursively walking said first file structure.
3. (Canceled).
4. (Original) The method of claim 1 wherein said first file structure is a file tree index.
5. (Original) The method of claim 1 wherein said second file structure is a file tree index.
6. (Original) The method of claim 1 wherein said comparing further comprises: comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

7. (Canceled)

8. (Canceled)

9. (Previously Presented) A file tree comparator comprising:
a first file structure configured to be obtained;
a second file structure configured to be obtained; and
a comparator for
comparing said first file structure to said second file structure; and
generating a sequence log of changes that transform said first file structure to said second file structure; and
optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.

10. (Previously Presented) The file tree comparator of claim 9 wherein comparing further comprises:
recursively walking said first file structure.

11. (Canceled)

12. (Original) The file tree comparator of claim 9 wherein said first file structure is a file tree index.

13. (Original) The file tree comparator of claim 9 wherein said second file structure is a file tree index.

14. (Previously Presented) The file tree comparator of claim 9 wherein comparing further comprises:

comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

15. (Canceled)

16. (Canceled)

17. (Previously Presented) A computer-readable medium storing computer-executable instructions for performing a method of comparing file tree descriptions, said method comprising:

obtaining a first file structure;

obtaining a second file structure;

comparing said first file structure to said second file structure;

generating a sequence log of changes that transform said first file structure to said second file structure; and

optimizing the sequence log of changes by detecting a creation operation and a deletion operation associated with the same file and replacing the creation operation and the deletion operation with a reparent operation.

18. (Currently Amended) The computer-readable medium of claim 17, wherein comparing further comprises:

recursively walking said first file structure.

19. (Canceled)

20. (Previously Presented) The computer-readable medium of claim 17 wherein said first file structure is a file tree index.

21. (Previously Presented) The computer-readable medium of claim 17 wherein said second file structure is a file tree index.

22. (Previously Presented) The computer-readable medium of claim 17 wherein comparing further comprises:

comparing one or more folders of said first file structure along with its children with a corresponding folder along with its children in said second file structure.

23. (Canceled)

24. (Canceled)

EVIDENCE APPENDIX

Appellants do not submit additional evidence with this appeal brief and no additional evidence has been submitted during prosecution.

RELATED PROCEEDINGS APPENDIX

Appellants are not aware of any related appeals or interferences with regards to the present application.